



SEQUENCE LISTING

#3

(1) GENERAL INFORMATION:

- (i) APPLICANT: SANCHIS, Vincent
LERECLUS, Didier
MENOUE, Ghislaine
LECADET, Marguerite-Marie
MARTOURET, Daniel
DEDONDER, Raymond
- (ii) TITLE OF INVENTION: NUCLEOTIDE SEQUENCES CODING FOR
POLYPEPTIDES ENDOWED WITH A LARVICIDAL ACTIVITY TOWARDS
LEPIDOPTERA
- (iii) NUMBER OF SEQUENCES: 2
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: BURNS, DOANE, SWECKER & MATHIS
 - (B) STREET: P.O. Box 1404
 - (C) CITY: Alexandria
 - (D) STATE: Virginia
 - (E) COUNTRY: USA
 - (F) ZIP: 22313
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 08/461,551
 - (B) FILING DATE: 05-JUN-1995
 - (C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 08/251,652
 - (B) FILING DATE: 31-MAY-1994
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 07/458,754
 - (B) FILING DATE: 11-DEC-1989
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: EP 88 401 121.4
 - (B) FILING DATE: 06-MAY-1988
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: FR 87 08090
 - (B) FILING DATE: 10-JUN-1987
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: HUNTINGTON, R. D.
 - (B) REGISTRATION NUMBER: 27,903

(C) REFERENCE/DOCKET NUMBER: 010830-073

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (703) 836-6620

(B) TELEFAX: (703) 836-2021

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2711 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

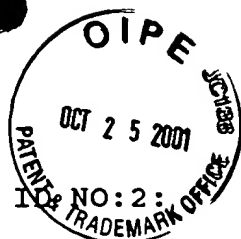
(D) TOPOLOGY: linear

(ii) MOLECULE-TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

| | |
|---|------|
| AAGCTTCAAT AGAATCTCAA ATCTCGATGA CTGCTTAGTC TTTTAAATAC TGTCTACTTG | 60 |
| ACAGGGGTAG GAACATAATC GGTCAATTTT AAATATGGGG CATATATTGA TATTTTATAA | 120 |
| AATTTGTTAC GTTTTTTGTA TTTTTCATA AGATGTGTCA TATGTATTAA ATCGTGGTAA | 180 |
| TGAAAAACAG TATCAAATA TCAGAACTTT GGTAGTTTAA TAAAAAACG GAGGTATTTT | 240 |
| ATGGAGGAAA ATAATCAAAA TCAATGCATA CCTTACAATT GTTTAAGTAA TCCTGAAGAA | 300 |
| GTACTTTTGG ATGGAGAACG GATATCAACT GGTAATTACT CAATTGATAT TTCTCTGTCA | 360 |
| CTTGTTCACT TTCTGGTATC TAACTTTGTA CCAGGGGGAG GATTTTTAGT TGGATTAATA | 420 |
| GATTTTGTAT GGGGAATAGT TGGCCCTTCT CAATGGGATG CATTTCTAGT ACAAATTGAA | 480 |
| CAATTAATTA ATGAAAGAAT AGCTGAATTT GCTAGGAATG CTGCTATTGC TAATTTAGAA | 540 |
| GGATTAGGAA ACAATTTCAA TATATATGTG GAAGCATTTA AAGAATGGGA AGAAGATCCT | 600 |
| AATAATCCAG CAACCAGGAC CAGAGTAATT GATCGCTTTC GTATACTTGA TGGGCTACTT | 660 |
| GAAAGGGACA TTCCTTCGTT TCGAATTTCT GGATTTGAAG TACCCCTTTT ATCCGTTTAT | 720 |
| GCTCAAGCGG CCAATCTGCA TCTAGCTATA TTAAGAGATT CTGTAATTTT TGGAGAAAGA | 780 |
| TTGGGATTGA CAACGATAAA TGTCAATGAA AACTATAATA GACTAATTAG GCATATTGAT | 840 |
| GAATATGCTG ATCACTGTGC AAATACGTAT AATCGGGGAT TAAATAATTT ACCGAAATCT | 900 |
| ACGTATCAAG ATTGGATAAC ATATAATCGA TTACGGAGAG ACTTAACATT GACTGTATTA | 960 |
| GATATCGCCG CTTTCTTTCC AAATATGAC AATAGGAGAT ATCCAATTCA GCCAGTTGGT | 1020 |
| CAACTAACAA GGGAGTTTA TACGGACCCA TTAATTAATT TTAATCCACA GTTACAGTCT | 1080 |

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|------|
| GTAGCTCAAT | TACCTACTTT | TAACGTTATG | GAGAGCAGCG | CAATTAGAAA | TCCTCATTTA | 1140 |
| TTTGATATAT | TGAATAATCT | TACAATCTTT | ACGGATTGGT | TTAGTGTTGG | ACGCAATTTT | 1200 |
| TATTGGGGAG | GACATCGAGT | AATATCTAGC | CTTATAGGAG | GTGGTAACAT | AACATCTCCT | 1260 |
| ATATATGGAA | GAGAGGCGAA | CCAGGAGCCT | CCAAGATCCT | TTACTTTTAA | TGGACCGGTA | 1320 |
| TTTAGGACTT | TATCAATTCC | TACTTTACGA | TTATTACAGC | AACCTTGCCA | GCGCCACCAT | 1380 |
| TTTAATTTAC | GTGGTGGTGA | AGGAGTAGAA | TTTTCTACAC | CTACAAATAG | CTTTACGTAT | 1440 |
| GCAGGAAGAG | GTACGGTTGA | TTCTTTAACT | GAATTACCGC | CTGAGGATAA | TAGTGTGCCA | 1500 |
| CCTCGCGAAG | GATATAGTCA | TCGTTTATGT | CATGCAACTT | TTGTTCAAAG | ATCTGGAACA | 1560 |
| CCTTTTTTTAA | CAACTGGTGT | AGTATTTTCT | TGGACGCATC | GTAGTGCAAC | TCTTACAAAT | 1620 |
| ACAATTGATC | CAGAGAGAAT | TAATCAAATA | CCTTTAGTGA | AAGGATTTAG | AGTTTGGGGG | 1680 |
| GGCACCTCTG | TCATTACAGG | ACCAGGATTT | ACAGGAGGGG | ATATCCTTCG | AAGAAATACC | 1740 |
| TTTGGTGATT | TTGTATCTCT | ACAAGTCAAT | ATTAATTCAC | CAATTACCCA | AAGATACCGT | 1800 |
| TTAAGATTTC | GTTACGCTTC | CAGTAGGGAT | GCAGCAGTTA | TAGTATTAAC | AGGAGCGGCA | 1860 |
| TCCACAGGAG | TGGGAGGCCA | AGTTAGTGTA | GATATGCCTC | TTCAGAAAAC | TATGGAAATA | 1920 |
| GGGGAGAACT | TAACATCTAG | AACATTTAGA | TATACCGATT | TTAGTAATCC | TTTTTCATTT | 1980 |
| AGAGCTAATC | CAGATATAAT | TGGGATAAGT | GAACAACCTC | TATTTGGTGC | AGGTTCTATT | 2040 |
| AGTAGCGTTG | AACTTTATAT | AGATAAAATT | GAAATTATTC | TAGCAGATGC | AACATTTGAA | 2100 |
| GCAGAATCTG | ATTTAGAAAG | AGCACAAAAG | GCGGTGAATG | CCCTGTTTAC | TTCTTCCAAT | 2160 |
| CAAATCGGGT | TAAAAACCGA | TGTGACGGAT | TATCATATTG | ATCAAGTATC | CAATTTAGTG | 2220 |
| GATTGTTTAT | CAGATGAATT | TTGTCTGGAT | GAAAAGCGAG | AATTGTCCGA | GAAAGTCAAA | 2280 |
| CATGCGAAGC | GA CTCAGTGA | TGAGCGGAAT | TTACTTCAAG | ATCCAAACTT | CAGAGGGATC | 2340 |
| AATAGACAAC | CAGACCGTGG | CTGGAGAGGA | AGTACAGATA | TTACCATCCA | AGGAGGAGAT | 2400 |
| GACGTATTCA | AAGAGAATTA | CGTCACACTA | CCGGGTACCG | TTGATGAGTG | CTATCCAACG | 2460 |
| TATTTATATC | AGAAAATAGA | TGAGTCGAAA | TTAAAAGCTT | ATACCCGTTA | TGAATTAAGA | 2520 |
| GGGTATATCG | AAGATAGTCA | AGACTTAGAA | ATCTATTTGA | TCGCGTACAA | TGCAAAACAC | 2580 |
| GAAATAGTAA | ATGTGCCAGG | CACGGGTTC | TTATGGCCGC | TTTCAGCCCA | AAGTCCAATC | 2640 |
| GGAAAGTGTG | GAGAACCGAA | TCGATGCGCG | CCACACCTTG | AATGGAATCC | TGATCTAGAT | 2700 |
| TGTTCTTGCA | G | | | | | 2711 |



(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 823 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Glu | Glu | Asn | Asn | Gln | Asn | Gln | Cys | Ile | Pro | Tyr | Asn | Cys | Leu | Ser | |
| 1 | | | - | 5 | | | | | 10 | | | | | 15 | | |
| Asn | Pro | Glu | Glu | Val | Leu | Leu | Asp | Gly | Glu | Arg | Ile | Ser | Thr | Gly | Asn | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ser | Ser | Ile | Asp | Ile | Ser | Leu | Ser | Leu | Val | Gln | Phe | Leu | Val | Ser | Asn | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Phe | Val | Pro | Gly | Gly | Gly | Phe | Leu | Val | Gly | Leu | Ile | Asp | Phe | Val | Trp | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Gly | Ile | Val | Gly | Pro | Ser | Gln | Trp | Asp | Ala | Phe | Leu | Val | Gln | Ile | Glu | |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 | |
| Gln | Leu | Ile | Asn | Glu | Arg | Ile | Ala | Glu | Phe | Ala | Arg | Asn | Ala | Ala | Ile | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Ala | Asn | Leu | Glu | Gly | Leu | Gly | Asn | Asn | Phe | Asn | Ile | Tyr | Val | Glu | Ala | |
| | | 100 | | | | | 105 | | | | | | 110 | | | |
| Phe | Lys | Glu | Trp | Glu | Glu | Asp | Pro | Asn | Asn | Pro | Ala | Thr | Arg | Thr | Arg | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Val | Ile | Asp | Arg | Phe | Arg | Ile | Leu | Asp | Gly | Leu | Leu | Glu | Arg | Asp | Ile | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Pro | Ser | Phe | Arg | Ile | Ser | Gly | Phe | Glu | Val | Pro | Leu | Leu | Ser | Val | Tyr | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | Gln | Ala | Ala | Asn | Leu | His | Leu | Ala | Ile | Leu | Arg | Asp | Ser | Val | Ile | |
| | | | 165 | | | | | 170 | | | | | | 175 | | |
| Phe | Gly | Glu | Arg | Trp | Gly | Leu | Thr | Thr | Ile | Asn | Val | Asn | Glu | Asn | Tyr | |
| | | 180 | | | | | 185 | | | | | | 190 | | | |
| Asn | Arg | Leu | Ile | Arg | His | Ile | Asp | Glu | Tyr | Ala | Asp | His | Cys | Ala | Asn | |
| | | 195 | | | | 200 | | | | | | 205 | | | | |
| Thr | Tyr | Asn | Arg | Gly | Leu | Asn | Asn | Leu | Pro | Lys | Ser | Thr | Tyr | Gln | Asp | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Thr | Tyr | Asn | Arg | Leu | Arg | Arg | Asp | Leu | Thr | Leu | Thr | Val | Leu | 225 | 230 | 235 | 240 |
| Asp | Ile | Ala | Ala | Phe | Phe | Pro | Asn | Tyr | Asp | Asn | Arg | Arg | Tyr | Pro | Ile | 245 | 250 | 255 | |
| Gln | Pro | Val | Gly | Gln | Leu | Thr | Arg | Glu | Val | Tyr | Thr | Asp | Pro | Leu | Ile | 260 | 265 | 270 | |
| Asn | Phe | Asn | Pro | Gln | Leu | Gln | Ser | Val | Ala | Gln | Leu | Pro | Thr | Phe | Asn | 275 | 280 | 285 | |
| Val | Met | Glu | Ser | Ser | Ala | Ile | Arg | Asn | Pro | His | Leu | Phe | Asp | Ile | Leu | 290 | 295 | 300 | |
| Asn | Asn | Leu | Thr | Ile | Phe | Thr | Asp | Trp | Phe | Ser | Val | Gly | Arg | Asn | Phe | 305 | 310 | 315 | 320 |
| Tyr | Trp | Gly | Gly | His | Arg | Val | Ile | Ser | Ser | Leu | Ile | Gly | Gly | Gly | Asn | 325 | 330 | 335 | |
| Ile | Thr | Ser | Pro | Ile | Tyr | Gly | Arg | Glu | Ala | Asn | Gln | Glu | Pro | Pro | Arg | 340 | 345 | 350 | |
| Ser | Phe | Thr | Phe | Asn | Gly | Pro | Val | Phe | Arg | Thr | Leu | Ser | Ile | Pro | Thr | 355 | 360 | 365 | |
| Leu | Arg | Leu | Leu | Gln | Gln | Pro | Cys | Gln | Arg | His | His | Phe | Asn | Leu | Arg | 370 | 375 | 380 | |
| Gly | Gly | Glu | Gly | Val | Glu | Phe | Ser | Thr | Pro | Thr | Asn | Ser | Phe | Thr | Tyr | 385 | 390 | 395 | 400 |
| Arg | Gly | Arg | Gly | Thr | Val | Asp | Ser | Leu | Thr | Glu | Leu | Pro | Pro | Glu | Asp | 405 | 410 | 415 | |
| Asn | Ser | Val | Pro | Pro | Arg | Glu | Gly | Tyr | Ser | His | Arg | Leu | Cys | His | Ala | 420 | 425 | 430 | |
| Thr | Phe | Val | Gln | Arg | Ser | Gly | Thr | Pro | Phe | Leu | Thr | Thr | Gly | Val | Val | 435 | 440 | 445 | |
| Phe | Ser | Trp | Thr | His | Arg | Ser | Ala | Thr | Leu | Thr | Asn | Thr | Ile | Asp | Pro | 450 | 455 | 460 | |
| Glu | Arg | Ile | Asn | Gln | Ile | Pro | Leu | Val | Lys | Gly | Phe | Arg | Val | Trp | Gly | 465 | 470 | 475 | 480 |
| Gly | Thr | Ser | Val | Ile | Thr | Gly | Pro | Gly | Phe | Thr | Gly | Gly | Asp | Ile | Leu | 485 | 490 | 495 | |
| Arg | Arg | Asn | Thr | Phe | Gly | Asp | Phe | Val | Ser | Leu | Gln | Val | Asn | Ile | Asn | 500 | 505 | 510 | |
| Ser | Pro | Ile | Thr | Gln | Arg | Tyr | Arg | Leu | Arg | Phe | Arg | Tyr | Ala | Ser | Ser | 515 | 520 | 525 | |

[illegible]